

Amendments to the Claims

1. (Currently amended) A syringe pump adapted to receive a syringe having a plunger movable along a barrel, the pump comprising: a plunger head actuator; an electric motor; and a drive mechanism between said motor and said plunger head actuator to move said plunger head actuator and hence said plunger along said barrel; a speed sensor arranged to measure the rotational speed of the motor; and an arrangement for detecting a fall in the rotational speed of the motor indicative of an obstruction to movement of said plunger and for stopping the motor in response to the detected fall in speed, wherein the pump is arranged to detect an obstruction to movement of said head actuator by monitoring change in speed of said motor.
2. (Currently amended) A pump according to Claim 1, wherein the pump includes a device speed sensor is arranged to produce pulses at a frequency dependent on the speed of said motor.
3. (Currently amended) A pump according to Claim 2, wherein the pump includes a timer for timing arrangement for detecting a fall in speed of the motor is arranged to time the intervals between said pulses.
4. (Currently amended) A pump according to Claim 3, including wherein the arrangement for detecting the fall in speed of the motor includes a store containing information as to the minimum measured time of said intervals, and a comparator operable to compare the time of intervals of subsequent pulses with said minimum time to determine whether said intervals exceed a predetermined multiple of said minimum time.

5. (Currently amended) A pump according to Claim 2, wherein the pump includes a shaft coupled with said motor, wherein said device is speed sensor includes an encoder connected with said shaft, and wherein said encoder produces said pulses.
6. (Original) A pump according to Claim 5, wherein said encoder is an optical encoder.
7. (Canceled)
8. (Original) A pump according to Claim 1, wherein the pump is arranged to generate an alarm signal when obstruction is detected.
9. (Currently amended) A syringe pump adapted to receive a syringe having a plunger movable along a barrel, the pump comprising an electric motor; a shaft rotated by the motor; a plunger head actuator driven by said shaft to displace said plunger along said barrel; and a speed sensor including an encoder coupled with said shaft to produce an output dependent on movement of said shaft; and an arrangement for detecting a fall in the rotational speed of the motor indicative of an obstruction to movement of said plunger and for stopping the motor in response to the detected fall in speed, and wherein the pump is arranged to detect obstruction to movement of said head actuator from said output of said encoder.
10. (Currently amended) A syringe pump adapted to receive a syringe having a plunger movable along a barrel, the pump comprising: an electric motor; a leadscrew rotated by said motor; a plunger head actuator movable along said leadscrew on rotation of said leadscrew so as to move said plunger along said barrel; an encoder mounted with said leadscrew and rotated with said leadscrew, said encoder providing a pulse output indicative of speed of rotation of the motor; a control unit

arranged to time intervals between pulses of said pulse output, to determine from the time of said intervals when the speed of said motor falls as a result of obstruction to movement of said actuator and to stop the motor in response to the detected fall in speed provide an output accordingly.

11. (Withdrawn) A method of detecting obstruction to movement of a plunger head actuator in a syringe pump, comprising the steps of monitoring the speed of a motor driving said plunger head actuator and detecting when said speed falls as a result of obstruction to movement of said plunger head actuator.

12. (Withdrawn) A method according to Claim 11, including the steps of producing pulses at a frequency dependent on motor speed and timing the interval between pulses to detect when motor speed falls.

13. (Withdrawn) A method according to Claim 12, including the steps of storing information as to the minimum measured interval between pulses and comparing intervals between subsequent pulses with a predetermined multiple of said minimum interval to determine when said intervals exceed said predetermined multiple of said minimum interval.

14. (Withdrawn) A method of detecting obstruction to movement of a plunger head actuator in a syringe pump, comprising the steps of: rotating a motor to drive a plunger head actuator; generating a pulsed output from an encoder rotated by said motor; timing intervals between pulses in said output; storing information as to the minimum measured interval between pulses; and comparing intervals between subsequent pulses with a predetermined multiple of said minimum interval to determine when said intervals exceed said predetermined multiple of said minimum interval.